

REMARKS

Applicant appreciates the thorough examination of the present application as evidenced by the Office Action of June 16, 2009 (hereinafter "Office Action"). Applicant has amended the claims as set out above and, therefore, respectfully submits that the pending claims are in condition for allowance for at least the reasons discussed herein.

Claims 1 and 13 are Patentable over Basu, Burnett and Girod

Claims 1-3 and 13-15 stand rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application Publication No. 2003/0018475 to Basu et al. ("Basu") in view of U.S. Patent Application Publication No. 2004/0133421 to Burnett et al. ("Burnett") and further in view of U.S. Patent No. 6,483,532 to Girod ("Girod"). Applicant respectfully submits that Claims 1 and 13, as amended, are patentable over Basu, Burnett and Girod, alone or in combination, for at least the reason that several of the recitations therein are not disclosed or suggested by the cited references. For example, Claim 1, as amended, recites, in part:

wherein said noise reduction circuit is further configured to subtract a discretized version of an estimated noise power density spectrum of said background noise from a discrete signal spectrum of an analog-to-digital converted version of said analog audio sequence, said estimated noise power density spectrum being **based on said audio features, said visual features and said discrete signal spectrum.** (*Emphasis added.*)

Applicant respectfully submits that the cited references do not disclose or suggest a noise reduction method wherein an estimated noise power density spectrum that is based on extracted audio and video features is subtracted from a discrete signal spectrum of the audio sequence. In this regard, Basu, Burnet and Girod, alone or in combination, do not disclose or suggest "an analog-to-digital converted version of said analog audio sequence, said estimated noise power density spectrum being based on said audio features, said visual features and said discrete signal spectrum," as recited in Claim 1, as amended. Accordingly, the references necessarily do not disclose or suggest that the noise reduction circuit is configured to "subtract a discretized version of an estimated noise power density spectrum...from a discrete

signal spectrum of an analog-to-digital converted version of said analog audio sequence," as recited in Claim 1, as amended. Thus, Applicant respectfully submits that Claim 1, as amended is patentable over Basu, Burnett and Girod, alone or in combination, the allowance of which is respectfully requested.

Applicant respectfully submits that independent Claim 13, as amended, includes similar recitations as amended Claim 1, as discussed above. In this regard, Claim 13, as amended, is patentable over Basu, Burnett, and Girod, alone or in combination, for at least the same reasons discussed above regarding Claim 1. Accordingly, the allowance of Claim 13 is respectfully requested.

Claim 4 is Patentable over Basu, Burnett and Wynn

Claims 4, 7 and 8 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Basu in view of Burnett and further in view of U.S. Patent No. 5,706,394 to Wynn ("Wynn"). Applicant respectfully submit that Claim 4, as amended, is patentable over Basu, Burnett and Girod, alone or in combination, for at least the reason that several of the recitations therein are not disclosed or suggested by the cited references. For example, Claim 4, as amended, recites, in part "estimating a noise power density spectrum of statistically distributed background noise based on said audio features, said visual features and said discrete signal spectrum."

The Office Action states that Wynn teaches a method for reducing noise in speech, namely, "[e]stimating a noise power density spectrum of background noise based on a voice activity." (Office Action, page 7.) Applicant respectfully submits that Wynn does not disclose or suggest that the noise power density spectrum is estimated based on "said audio features, said visual features and said discrete signal spectrum," as recited in Claim 4, as amended. Additionally, Basu and Burnett do not provide the teachings that are missing from Wynn. Accordingly, Applicant respectfully submits that Claim 4, as amended, is patentable over Basu, Burnett and Wynn, alone or in combination, the allowance of which is respectfully requested.

Dependent Claims Are Allowable

Applicant traverses the rejection of dependent Claims 2, 3, 5-12, 14 and 15. However, as each of these claims depends from a base claim that is believed to be in condition for allowance, Applicant does not believe that it is necessary to argue the allowability of each dependent claim individually. Applicant does not necessarily concur with the interpretation of these claims, nor with the bases for rejection set forth in the Office Action. Applicant therefore reserves the right to address the patentability of these claims individually as necessary in the future.

Conclusion

Accordingly, based on the above amendments and remarks, Applicant submits that the pending claims are now in condition for allowance. Thus, Applicant respectfully requests allowance of these claims and passing the application to issue. Applicant encourages the Examiner to contact the undersigned to resolve any remaining issues.

Respectfully submitted,




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Michele P. McMahan